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A DEVICE FOR AND A METHOD OF TRANSFERRING PERSONNEL BETWEEN UNITS AT SEA

This invention regards a device for transferring personnel between units at sea. More particularly, it concerns a lifting device in the form of a personnel capsule with an associated guideline, the personnel capsule being arranged to transfer personnel from a first vessel and to a second vessel or an offshore installation. In this context, installation means any fixed, semi submersible or floating installation located offshore. The invention also comprises a method of applying the device.

The transport of personnel between shore and an offshore installation, or between offshore installations, is often carried out by means of helicopter. However, helicopter transport is relatively expensive.

It is also known to transfer personnel to or from a vessel by use of a basket connected to a lifting device on the installation. The basket is normally constructed in such a way that the personnel must stand on the outside of the basket and hold on to this during the transfer.

The use of a basket according to prior art is conditional on relatively calm seas and little wind. It has become apparent that the personnel being transferred see the use of a prior

art basket as being an unsafe and stressful method, especially in non-ideal weather conditions.

The object of the invention is to remedy the disadvantages of prior art.

The object is achieved in accordance with the invention, by the characteristics stated in the description below and in the following claims.

A lifting facility, hereinafter termed a personnel capsule, is provided with a positioning and landing device on board the deck of a first vessel. The personnel capsule is arranged to be raised and lowered through use of a lifting device located on an offshore installation, or possibly on another vessel.

A guideline connected to the first vessel is directly or indirectly connected to the attachment point of the lifting device, at least during the actual landing and lift-off operation on/from the positioning and landing device. Preferably, a specific tensile force is imparted to the guideline, at least during part of the lifting operation.

The personnel capsule comprises a guide-in portion corresponding to the positioning and landing device, and it is provided with a lounge area for the personnel to be transferred by use of the personnel capsule, which area is preferably at least partially enclosed.

In a preferred embodiment, the lounge area comprises seats where the personnel may strap in if so desired. The personnel capsule is fitted with shock absorbing, possibly sectioned material that can be subjected to shocks from the positioning and landing device during the landing and lift-off operations.

The personnel capsule is designed to normally be carried by the first vessel and as a result be available for use at all installations where the first vessel calls.

By using a personnel capsule according to the invention, in which the personnel to be transferred is located, possibly strapped down in a protected space, and where the guide line to a considerable extent will facilitate the guiding of the personnel capsule towards the positioning and landing device on the first vessel, a transfer device and method are provided which represent a considerable improvement on prior art in terms of operating safety, personnel safety and/or economics.

The following describes a non-limiting example of a preferred embodiment and method illustrated in the accompanying drawings, in which:

Figure 1 is a perspective view of a personnel capsule being lifted from a first vessel to an offshore installation;

Figure 2 is a scaled-up view of the personnel capsule placed on the first vessel, as a lifting hook with the appropriate connecting equipment is lowered towards the personnel capsule;

Figure 3 is a partially sectioned view of the personnel capsule, also showing a winch for a guideline and a positioning and landing device, a strayline being connected to the guideline;

Figure 4 shows the same as figure 3, but here the connecting equipment is connected to the personnel capsule;

Figure 5 shown the personnel capsule lifted slightly off the positioning and landing device; and

Figure 6 shows the same as figure 5, but here the personnel capsule has been lifted further off the positioning and landing device.

In the drawings, reference number 1 denotes a personnel capsule, which is a complementary fit to a positioning and landing device 4 connected to a first vessel 2.

The personnel capsule 1, see figure 3, comprises a load-carrying and generally conical housing 6. Internally, the housing 6 is formed with a conical, open enclosure 8 with the largest cross section of the conical enclosure 8 facing down. Centred in the upper end of the conical enclosure 8 is a through-going bevelled opening 10.

An annulus 14 is defined by the conical enclosure 8, an outer wall 16 surrounding the conical enclosure 8, a floor portion 18 and a roof 20. The annulus 14 is fitted with a number of chairs 22, while the outer wall 16 is provided with a number of through access ports 24. The ports 24 may optionally be equipped with windows.

At the upper end, the personnel capsule 1 is equipped with a platform 26 on which is provided three lifting points 28.

A fender 30 encircles the lower part of the housing 6. Internally of the conical enclosure 8 a shock absorbing material 32 is provided, which is arranged to abut the positioning and landing device 4 when the personnel capsule 1 has docked on the positioning and landing device 4.

Inside the positioning and landing device 4, the first ship 2 is equipped with a constant force winch 34 on which is wound a guideline 36. The positioning and landing device 4 is formed as a cone, which fits inside the conical enclosure 8 in a complementary manner. At the upper end, the positioning

and landing device 4 is provided with a through guide opening 38 for the guideline 36.

When the personnel capsule 1, which is located on the positioning and landing device 4 of the first vessel 2, is to be used to transfer personnel to an installation 40, a lifting hook 42 associated with a lifting device 44 on the installation 40 is lowered towards the personnel capsule 1, see figure 2, the lifting hook 42 constituting the attachment point of the lifting device.

A headline 46 suspended from the lifting hook 42 is connected to the guideline 36 in a lockable manner, the guideline 36 running through the openings 10 and 38, whereupon the guideline 36 is tightened by means of the constant force winch 34, see figure 3.

A connecting implement 48 in the lifting hook 42 is connected and locked to the lifting points 28 on the personnel capsule, see figure 4.

After the personnel to be lifted has been seated in the seats 22, the personnel capsule 1 is relatively quickly lifted off the positioning and landing device 4 with a specific tension in the guide line 36, see figure 5.

As a result of the force and the guiding effect of the guideline 36, the personnel capsule 1 will only be subjected to a small amount of swing during the lifting of the personnel capsule 1 from the positioning and landing device 4.

When the personnel capsule 1 has been lifted clear of the positioning and landing device 4 and is located at a height at which a certain amount of oscillating motion is acceptable, the guideline 36 is slackened, see figure 1, to allow the personnel capsule 1 to be landed on the installation 40.

Upon return of the personnel capsule 1 to the first vessel 2, the guideline 36 is tightened to a specific tension when the personnel capsule 1 is still a good distance from the installation 40 and over the positioning and landing device 4, whereby the personnel capsule 1 is guided down onto the positioning and landing device 4 with a minimum deflection of the personnel capsule 1 relative to the first vessel 2. The docking operation is dampened by the fender 30 and the damping material 32.

In an alternative embodiment (not shown) the shock-absorbing material 32 is distributed over both the inside of the conical enclosure 8 and the positioning and landing device 4.